Please add new claims 29-48 As shown below.

29. A process for providing shallow trench isolation in the surface of a silicon semiconductor substrate comprising:

forming a trench in the surface of the substrate;

holding the temperature of said substrate at a first temperature in a first gaseous environment for a first period of time to grow a liner oxide on a surface of said trench;

increasing the temperature of said substrate from said first temperature to a second temperature in a second gaseous environment for a second period of time in order to anneal the liner oxide;

decreasing the temperature of said substrate from said second temperature to a third temperature, and filling said trench with a chemical vapor deposition (CVD) oxide at said third temperature.

30. The process of Claim 29, wherein said first temperature is about 1000 degrees centigrade.

31. The process of Claim 29, wherein said first gaseous environment comprises oxygen and chlorine.

32. The process of Claim 29, wherein said second temperature is equal to about 1050 degrees centigrade.

33. The process of Claim 29, wherein said second gaseous environment comprises nitrogen.

34. The process of Claim 29, wherein said second period of time is equal to about three hours.

35. The process of Claim 29, wherein said third temperature equals about 800 degrees centigrade.

36. A process for providing shallow trench isolation on the surface of a silicon semiconductor substrate comprising:

forming a trench on the surface of the substrate;

heating said substrate to a first temperature in a first gaseous environment for a first period of time;

increasing the temperature of said substrate to a second temperature;

holding the temperature of said substrate at said second temperature for a second period of time in a second gaseous atmosphere;

holding the temperature of said substrate at said second temperature in a third gaseous environment for a third period of time to grow a liner oxide on a surface of said trench;

increasing the temperature of said substrate from said second temperature to a third temperature in a fourth gaseous environment for a fourth period of time in order to anneal the liner oxide;

decreasing the temperature of said substrate from said third temperature to a fourth temperature, and filling said trench with a CVD oxide at said fourth temperature.

37. The process of Claim 36, wherein said first temperature is about 800 degrees centigrade.

38. The process of Claim 36, wherein said first gaseous environment comprises argon and oxygen.

39. The process of Claim 36, wherein said second temperature is equal to about 1000 degrees centigrade.

40. The process of Claim 36, wherein said second gaseous environment comprises argon.

41. The process of Claim 36, wherein said third gaseous environment comprises oxygen and chlorine.

42. The process of Claim 36, wherein said third temperature is equal to about 1050 degrees centigrade.

43. The process of Claim 36, wherein said fourth gaseous environment comprises nitrogen.

44. The process of Claim 36, wherein said fourth period of time is equal to about three hours.

45. The process of Claim 36, wherein said fourth temperature equals 800 degrees centigrade.

46. A process for providing shallow trench isolation on the surface of a silicon semiconductor substrate comprising:

forming a trench on the surface of the substrate;

stabilizing the substrate at about 1000 degrees centigrade for a first period of time;

growing a liner oxide on a surface of said trench at about 1000 degrees centigrade;

annealing said liner oxide at about 1050 degrees centigrade; and

cooling directly to a deposition temperature and filling said trench with a chemical vapor deposition (CVD) oxide.

47. The process of Claim 46, wherein said deposition temperature is about 800 degrees centigrade.

48. The process of Claim 46, wherein said liner oxide is grown in the presence of chlorine and oxygen.